

WE CLAIM:

1. A system suitable for adaptive post-processing of media data in an electronic device, the system comprising:

- 5 a. one or more post-processing modules, the post-processing modules performing post-processing of the media data, each post-processing module comprising one or more processing modes with different complexities; and
- 10 b. an adaptive mode decision module coupled to the post-processing modules, wherein the adaptive mode decision module decides suitable processing modes to be used in the post-processing modules, the decision being based on one or more values of input parameters, the input parameters being representative of the state of the electronic device.

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2. The system as recited in claim 1 wherein the adaptive mode decision module comprises:

- a. an input module, the input module receiving the input parameters;
- 20 b. a table module relating the processing modes of the post-processing modules and all possible values of the input parameters; and
- c. an output module coupled to the input module and the table module, the output module selecting the suitable processing modes of the post-processing modules.
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3. The system as recited in claim 1 wherein one of the input parameters is remaining battery power of the electronic device.

30 4. The system as recited in claim 1 wherein one of the input parameters is processor usage of the electronic device.

5. The system as recited in claim 1 wherein one of the input parameters is user preference, the user preference indicating choice of output quality of the media data.

5 6. A method of adaptive post-processing of media data in an electronic device, the post-processing being performed using one or more post-processing modules, the post-processing modules comprising one or more processing modes with different complexities, the method comprising:

10 a. obtaining values of one or more input parameters, the input parameters being representative of the state of the electronic device;

b. selecting suitable processing modes for the post-processing modules, the selection being based on the values of the input parameters and the complexity of the processing modes; and

15 c. performing the post-processing of the media data using a selected one of the suitable processing modes.

20 7. The method as recited in claim 6 wherein obtaining the values of one or more input parameters comprises continuously monitoring the values of the input parameters.

25 8. The method as recited in claim 6 wherein the method further comprises generating a table, the table defining the suitable processing modes to be used for a given range of input parameter values.

30 9. The method as recited in claim 8 wherein generating the table comprises:

a. obtaining the processing modes available in the post-processing modules;

b. obtaining all combinations of processing modes, each combination containing one processing mode from each processing module;

5 c. obtaining output quality for each combination of the processing mode;

d. arranging the combinations of processing modes in increasing order of complexity;

10 e. eliminating the combinations that do not give higher quality compared to the combinations having lower complexity; and

f. allocating ranges of input parameter values for each combination of processing modes.

15 10. The method as recited in claim 7 wherein obtaining the input parameters comprises obtaining remaining battery power in the electronic device.

20 11. The method as recited in claim 7 wherein obtaining the input parameters comprises obtaining processor usage of the electronic device.

25 12. The method as recited in claim 7 wherein obtaining the input parameters comprises obtaining user preference, the user preference indicating desired output quality of the media data.

13. The method as recited in claim 7 wherein selecting the suitable processing modes comprises:

a. for each input parameter value, obtaining a combination of processing modes to be used;

30 b. determining an overall complexity for each of the combinations corresponding to the input parameter values; and

c. selecting the combination of the processing modes having minimum overall complexity.

5 14. A computer program product for use with a computer, the computer program product comprising a computer usable medium having a computer readable program code embodied therein for adaptive post-processing of media data in an electronic device, the post-processing being performed using one or more post-processing modules, the post-processing modules comprising one or more
10 processing modes with different complexities, the computer program code performing:

 a. obtaining one or more input parameters, the input parameters influencing the post-processing of the media data;
 b. selecting suitable processing modes for the post-
15 processing modules, the selection being based on the input parameters and the complexity of the processing modes; and
 c. performing post-processing of the media data using the suitable processing modes.

20 15. The computer program product as recited in claim 14 wherein the computer program code for obtaining the values of one or more input parameters comprises a computer program code for continuously monitoring the values of the input parameters.

25 16. The computer program product as recited in claim 14 wherein the computer program code for selecting the suitable processing modes comprises a computer program code for generating a table, the table defining the suitable processing modes to be used for a given range of input parameter values.

17. The computer program product as recited in claim 16 wherein the computer program code for generating the table comprises a computer program code for:
- a. obtaining the processing modes available in the post-processing modules;
 - b. obtaining all combinations of processing modes, each combination containing one processing mode from each processing module;
 - c. obtaining output quality for each combination of the processing mode;
 - d. arranging the combinations of processing modes in increasing order of complexity;
 - e. eliminating the combinations that do not give higher quality compared to the combinations having lower complexity; and
 - f. allocating ranges of input parameter values for each combination of processing modes.
18. The computer program product as recited in claim 14 wherein the computer program code for obtaining the input parameters comprises a computer program code for obtaining remaining battery power in the electronic device.
19. The computer program product as recited in claim 14 wherein the computer program code for obtaining the input parameters comprises a computer program code for obtaining processor usage of the electronic device.
20. The computer program product as recited in claim 14 wherein the computer program code for obtaining the input parameters comprises a computer program code for obtaining user preference, the user preference indicating desired output quality of the media data.

21. The computer program product as recited in claim 14 wherein the computer program code for selecting the suitable processing modes comprises a computer program code including:

- 5 a. obtaining a combination of processing modes to be used for each input parameter value,;
- b. determining an overall complexity for each of the combinations corresponding to the input parameter values; and
- c. selecting the combination of the processing modes having minimum overall complexity.

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